

REPLY TO OFFICE ACTION OF 6 MAY 2004

SERIAL NO: 09/550,276
DOCKET NO: 010-US-002**AMENDMENT TO THE CLAIMS**

The below listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A cytometer apparatus comprising:
 - a rotating means adapted to receive and rotate a transparent cylinder along a longitudinal axis of the transparent cylinder;
 - a light source for illuminating [adapted to illuminate] at least a portion of said transparent cylinder while the transparent cylinder is being rotated by the rotating means;
 - a detector for detecting [adapted to detect] a light signal provided by said light source and reflected from said transparent cylinder while the transparent cylinder is being rotated by the rotating means;
 - determining means for determining at least one cytometric characteristic of a sample disposed in said transparent cylinder based on said light signal; and
 - a movement means for moving said transparent cylinder and said light source and detector in a longitudinal axis relative to one another.
2. (Previously Presented) The cytometer apparatus as set forth in claim 1, wherein said transparent cylinder comprises a bar code label affixed to an outer wall thereof, said bar code label adapted to be interrogated by said detector means.
3. (Previously Presented) The cytometer apparatus as set forth in claim 1, wherein said transparent cylinder has an inner wall having calibration standards affixed thereon.

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4. (Previously Presented) The cytometer apparatus as set forth in claim 1, wherein said transparent cylinder comprises an inner wall having a photoactivated crosslinker affixed thereon.

10. (Currently Amended) A spin cytometer, comprising:

a rotating means for rotating [adapted to rotate] a transparent cylinder about a longitudinal axis of the transparent cylinder;

a light source for illuminating [adapted to illuminate] at least a portion of the transparent cylinder while the transparent cylinder is being rotated by the rotating means;

a detector means for detecting a light signal generated by the light source and reflected from the transparent cylinder while the transparent cylinder is being rotated by the rotating means;

determining means for determining at least one cytometric characteristic of a sample disposed in said transparent cylinder based on said detected light signal; and

a movement means for moving the transparent cylinder and the light source and detector means in relative motion.

11. (Currently Amended) The spin cytometer of claim 10, wherein the rotating means is [further] adapted to sequentially rotate a transparent cylinder in two (2) directions.

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13. (Currently Amended) The spin cytometer of claim 10, wherein the rotating means is adapted to rotate a transparent cylinder comprising:

a closed end;

an open end;

a cell guide member having a first side oriented toward the open end, a second side oriented toward the closed end, and a passage from the first side to the second side; and

a cap for sealing [adapted to seal] the open end.

14. (Previously Presented) The spin cytometer of claim 13, wherein the passage is smaller at said first side than it is at said second side.

15. (Previously Presented) The spin cytometer of claim 14, wherein the passage is substantially smaller than the diameter of said transparent cylinder.

16. (Previously Presented) The spin cytometer of claim 13, wherein the closed end has a smaller outside diameter than the open end.

17. (Previously Presented) The spin cytometer of claim 13, wherein said transparent cylinder comprises a polystyrene cylinder.

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18. (Previously Presented) The spin cytometer of claim 13, wherein an inner wall of said transparent cylinder comprises an organic photoreceptor material affixed thereon.

19. (Previously Presented) The spin cytometer of claim 18, wherein the organic photoreceptor material is activated by a wave length of approximately 300 nanometers to approximately 800 nanometers.

20. (Previously Presented) The spin cytometer of claim 19, wherein the organic photoreceptor material comprises dibromo anthanthrone.

21. (Previously Presented) The spin cytometer of claim 10, wherein the rotating means comprises a stepper motor.

22. (Previously Presented) The spin cytometer of claim 10, wherein the light source comprises a light emitting diode.

23. (Previously Presented) The spin cytometer of claim 22, wherein the light emitting diode is adapted to emit a light having a wavelength of between approximately 300 nanometers and 800 nanometers.

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24. (Previously Presented) The spin cytometer of claim 10, wherein the detector means further comprises an analog to digital converter.

25. (Previously Presented) The spin cytometer of claim 24, wherein the detector means further comprises a processing means for associating a location identifier with an analog to digital converter output value, the location identifier identifying a location on a surface of the transparent cylinder at which the digital to analog value was obtained.

26. (Previously Presented) The spin cytometer of claim 10, further comprising an additional one (1) or more light sources, each light source adapted to illuminate at least a portion of the transparent cylinder.

27. (Previously Presented) The spin cytometer of claim 26, wherein each of the additional one (1) or more light sources are adapted to emit a different wavelength.

28. (Previously Presented) The spin cytometer of claim 10, further comprising at least one diffraction grating.

29. (Previously Presented) The spin cytometer of claim 10, wherein the detector means comprises a photomultiplier.

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30. (Previously Presented) The spin cytometer of claim 10, wherein the detector means comprises a charge coupled device.
31. (Previously Presented) The spin cytometer of claim 27, further comprising an additional one (1) or more detector means, each detector means responsive to a light signal generated by one of the light sources.
33. (Previously Presented) The spin cytometer of claim 10, wherein the movement means moves the transparent cylinder in a direction substantially parallel to the transparent cylinder's longitudinal axis.
34. (Previously Presented) The spin cytometer of claim 10, wherein the movement means moves the light source and detector means in a direction substantially parallel to the transparent cylinder's longitudinal axis.